ICSS

the superior student

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GOOD WRITING, AN INGREDIENT OF HONORS WORK

Nearly all of our articles dealing with specific on-going Honors programs have underscored four of their most desirable academic features: 1) accelerated courses of study; 2) small classes which encourage student discussion and intellectual give and take; 3) greater opportunties to tackle research problems in the laboratories and libraries; and 4) independent reading. However, an important fifth ingredient of Honors work has not received, we think, the consideration it merits, namely the opportunities that Honors programs offer to students simply *to write.*

Most of our professors, irrespective of their disciplines, will acknowledge that the writing of a thoughtful and coherent essay is becoming a lost art among our college and university students. Indeed, it undoubtedly would be possible to discover at graduation time thousands of students who have never been called on to write such an essay during their four undergraduate years.

How, in brief, can Honors programs help partially to correct this increasingly apparent defect in American education? First they can demand, and they usually do in the case of departmental programs, the writing of a thesis—one that combines for the student the intellectual excitement of research with the exposition, in a felicitious literary manner, of what he has discovered. And second, the instructor of a small Honors class, by the very nature of things, should be more inclined to assign a greater amount of written work than his counterpart who is saddled with a catch-all class of fifty to five hundred.

education and leadership in a democracy

THE CULTIVATION OF "THE PROUD MIND OF MAN"

By Max Savelle
Professor of History
University of Washington

In this age of mass-democracy, one of the most vital and pressing problems confronting society is that of finding and developing genuine leaders. Obviously, the answer to the problem must include both the means of finding potential leaders and a philosophy to govern the guidance of their development. This, in the last analysis, means education.

But what do we mean by education? And how may it be made most effectively to serve the purposes of life in a democracy?

In the first place, let me say quite plainly that I most emphatically do not consider specialized training of an individual in some vocation, such as engineering, medicine, or the legal profession as education. Further, I do not consider education as primarily a "training" for anything, although a training of the mind is a necessary and an almost inevitable by-product of education. I do not believe, either, that the primary purpose of education is the social adjustment of the individual to the group. Nor do I accept the conclusion of Paul Woodring that education is the preparation of the individual to "make wise decisions."

What I do believe education is, is the introducing of the individual to so many and such rich experiences that he may achieve the good life, and that the good life may mean for him the best, the richest, the fullest, the deepest,—in other words, the most enjoyable—and, incidentally, the most useful life that, for him, with his peculiar, individual attributes, physical, intellectual, emotional, and creative, may be possible. All the technological training in the world cannot cultivate these things in him. The best that technological training can do is to produce a lot of human "trained seals."

In the second place, let it be clearly recognized that men are not equal. Science has abundantly proven, and the classroom experience of every schoolteacher in the land has amply demonstrated, that every individual is different from every other in the world (with the possible exception, perhaps, of identical twins), especially in intellectual endowment.

If we apply this principle to our modern situation, it seems to follow that our educational system should recognize the scientifically demonstrated fact that children are not equal, and provide for every individual the maximum of education that that individual can assimilate. This would mean that the superior student, the so-called "fast learner" would be spotted early in the course of his schooling and would be given every opportunity to proceed as rapidly and as deeply as he might be capable of doing.

Most of our educational outlook and practice in this country, however, revolves about the "norm," the "average,"—yes, the mediocre. Much of what we do in the schools is based upon the I.Q. of 100; the students with I.Q.'s above 100 are neglected. Even where there is a curriculum for the superior student, the program laid out for him is generally far less rich and challenging, far less calculated to make his life genuinely the good life, as I have described it, than it might be.

What I propose is that we re-cast our attitudes and practices in education in such a way as consciously to find our ex-

ceptional, gifted individuals, our potential intellectual leaders, and then give them the richest educational experience it is possible for them to have.

There are, of course, many who would honestly oppose any such scheme of education on the ground that it is undemocratic. It appears to favor some and discriminate against others. Let all, these opponents say, have the same (that is to say, "equal") education. This, and only this, is democratic equality. Furthermore, they say, if you educate individuals along different, individualistic lines, you are likely to raise up a lot of dissenters, of critics of the status quo. But this is dangerous; it even leads to "subversion;" it might even lead, logically and eventually, to an end of democracy itself.

On the other hand, there are many who oppose the kind of education I am suggesting here on the ground that education must be "education *for* something," by which they mean engineering, medicine, and so on. Anything else is a waste of time.

It is these moods that dominate much, if not most, of our thinking about public education in this country today. These moods, too, are just one more set of expressions of the mass mind.

What we are concerned about here, in the first place, are the dangers to democracy itself that lie inherent in such moods. For the sort of "equal" education suggested by these opponents is obviously suicidal, so far as leadership is concerned. More than anything else, democracy needs enlightened, really educated leaders. But the sort of education envisaged by the current moods of the mass democracy would not cultivate leaders; on the contrary, it would discourage and impede their development; it would—and does—have a tendency toward a suppression of exceptional talents within the bounds of mediocrity. And it goes without saying that mediocrity can never furnish a truly enlightened leadership.

Nor will purely technological training produce the qualities of intellectual and cultural enlightenment that are essential to the true leader. For these qualities reside in a part of human nature that technological concerns almost never touch.

Apart from the need of society for leadership, however, is the duty of a truly democratic society to provide for every individual the means of achieving the "good life." This, I repeat, means the broadest possible range of experience: the rich experience of knowing for its own sake; the plumbing of the depths of understanding of life and its most profound meanings and values; an opening of the broadest horizons of beauty, with a sharpening of one's critical appreciation of it and articulateness in communication of one's feelings; the cultivation of the individual's creative talents, whether in literature, in art, in music, in philosophy, or in science, and a sense of the principles that govern the most tolerant and generous relationships between individuals and peoples. Above all, it means the intellectual and moral courage to think and speak freely in all matters of concern to the individual or to society. It is my profound conviction that the cultivation of every individual, in this sense, to the utmost limits of his individual capacity, is the true meaning of democracy in education.

The implication of what I am saying, in all honesty of conviction, is, that democratic education, in this sense is bound to bring into existence a sort of intellectual elite. It is a "natural" elite, to use Jefferson's words, which would include both the most cultivated persons and the most enlightened leaders in society. There can be, of course, no sharp line between this so-called elite and the other members of society. Rather, ideally speaking, the result of such a system of education would

be a society of fully educated individuals, in which there would be an imperceptible shading from the level of those of least capacity to that of those of the greatest. And there would always be the freedom of movement that would make it possible for persons of ability to move upward toward the top.

But there would be a top. It's no use to say all men are equal and then try to force them to be equal in cultural attainments when nature has actually made them unequal. Why try to force men to be all alike in the name of a pernicious dead-level of mediocrity?

Actually, a certain amout of this educational selection is taking place now. Generally speaking, it is the superior students who get through high school and go on to college; it is the superior student who finishes college and gets elected to an honorary scholarly society. But our perverted obsession with the pragmatic, the vocational, and the technological aspects of our so-called "education" has led to the production of an elite of wealth, of technology, of science, and of the professions—including school-teachers—who are not truly educated, nor "enlightened," in the sense of the word used in this discussion, and who are leaders in every way except truly intellectual and cultural ways.

This means that the genuinely educated, the "civilized" individual is a rarity among us. Worse still, it means that while we are building hydrogen bombs and moon-satellites, we have practically forgotten the things without which the value of the scientific or technological achievement is nil. I mean the joy of living itself—the enjoyment of knowledge, the deepening of the human understanding, the appreciation of beauty, the development of generous, humane, tolerant and cultivated relationships among men in society and among the different peoples of the world. These are the qualities that make for true civilization. They are enduring qualities, the growing, developing qualities that make life more and more worth living; and it is their steady and constant unfolding that is the key to any valid distinction between civilization and savagery, between men and animals.

If one will reflect upon the achievements of human civilization in the course of its long history, in the Mediterranean area, in India, in China and Japan, or in the Atlantic civilization, he will be struck by the fact that almost without exception the great monuments of human progress —the philosophies of the ancient Greeks and Chinese, the architectural wonders of India or the Feudal West, the works of Shakespeare, the music of Beethoven or Brahms, or the engineering and scientific triumphs of the twentieth century—all have been the creations of the human intelligence at work. It is upon the cultivation of this intelligence in its integral relationship with the emotions—what Kozantzakis, in his modern sequel to Homer's *Odyssey*, calls "the proud mind of man"—that the future peace, progress, and happiness of mankind depends. But the proud mind—or spirit—of man is not merely technological, nor scientific alone. We must remember that man does not live by bread—nor rockets—alone. Those things, important as they may be, are on the periphery of human life. The things that count most, that have always counted most, and that always will, are the qualities that make human life itself, after all, worth while. I greatly fear that we may today stand in real danger of losing those qualities in our interest in winning the race of the missiles.

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HONORS IN THE MEDICAL SCHOOL

A Newly Adopted Honors Program at the University of Kansas School of Medicine

Report to the Dean by the Honors Committee (ad hoc) June 25, 1958:

Dr. L. R. C. Agnew, Dr. Charles Brackett, Dr. George Curran, Dr. C. Frederick Kittle, Dr. Howard Matzke, Dr. C. Arden Miller, **Chairman;** Dr. Charles Poser, Dr. Frederick Samson, Dr. Alvar Werder

the problem

Our present program in medical school makes nearly uniform demands of all students. And our students give as surprisingly uniform performances. What we as teachers regard as necessary and minimum goals in medical education appear to be regarded by many of our students as maximum and sufficient levels of achievement. Reading certain textbooks, attending certain lectures, passing certain examinations—these are the endeavors with which many of our students are content.

Each year some students show an interest and a capacity for study in excess of what our curriculum requires. If these students have sufficient initiative, they seek guidance from an active member of the faculty and engage in research or a program of study independent from other students and the demands of the curriculum. At least they attempt to do so insofar as our curriculum will allow. If they do not have initiative, they float through medical school without difficulty, without distinction and sometimes with a trace of ennui.

This is the problem with which our committee was charged: to develop an Honors program. We interpret this program as providing a design whereby outstanding students can be identified and encouraged in the maximum utilization of their talents.

the design

The course of study for Honor students might differ from that for the remainder of the class, but it should certainly not be less adequate in substance. If the substance of our present curriculum could be achieved in less time than is now re-

quired, this would be a desirable goal for some Honor students. If this substance could be accomplished while at the same time a student is enriching his medical education with a special interest (research problem, reading project), this would be a desirable goal for some Honor students. Or if some Honors students could accomplish the substance of the present curriculum by greater independence of study, exercising certain liberties with present schedules, this would be a desirable goal; the continuing worth of a physician, in research or in practice, requires him to study independent of coercion, patterns and schedules. Students who can do this in medical school should be encouraged.

Here are three legitimate designs for an Honors program: 1) an intensified and shortened course of study, 2) exploration of a special interest, 3) experience at acquiring knowledge independent of prescribed patterns. This report concerns itself with the means of achieving these goals for a few select students. We hope, of course, that the program will have a salutary effect on the attitudes of all students.

the select few

Considerable discussion in the committee centered around the selection of students for an Honors program. Opinion ranged from the belief that only academically superior students should qualify, to the view that any student sufficiently motivated to do additional work should qualify. Agreement was reached that the persons best suited for an Honors program would be the few academically superior, self-starting, highly motivated students who distinguish themselves in every class. For these students, we would think in terms of a shortened course of study, or special privileges to allow development of research interests, or other independent studies.

Other students, less eminently qualified in some respects, would not be excluded from the Honors program. Students are outstanding in different ways. The hard-working, unimaginative seeker after good grades and faculty approval might be stimulated to greater independence of thought by a special study project; the student only adequate in his course work, but bursting with enthusiasm for a special interest (mathematics and history are two examples in the present first year class) might be helped to relate his interest and his enthusiasm to broader studies in medicine. For these students one would think in terms of an Honors program which was more cautious in its departure from the standard curriculum.

The most promising students would be selected for Honors; criteria for promise probably would change, one student to the next, and would result ultimately on the judgment of those doing the selecting. No limit would be set on the number who may participate. This will vary with the class and the available facilities.

the plan

In essence the Honors program will consist of designing courses of study individually for the interests and talents of selected students. In all instances the present curriculum will serve as the core of a student's program, but departures from that core and additions to it will be allowed and encouraged.

Every Honors student will have a tutor. Any faculty member may serve as tutor. In most instances the tutor and student will devise together the Honors program. Once the program is approved and undertaken, the tutor will provide guidance and probably instruction and supervision to the student. The role of tutor will be a demanding one. The number of students engaged in Honors work may actually be

limited by the number of faculty members available to serve as tutors.

An Honors committee will supervise this plan. This committee will select the students and approve their proposed courses of study. The committee will, from time to time, review each program with student and tutor and make recommendations about continuation or abrogation as seems to the student's best interests.

mechanics

Great reliance will be placed on initiative of a student. In most instances he will seek out a tutor; together they will develop a proposal for a special course of study, and together they will present it to the Honors committee. The committee will assist in developing the plans, and will finally approve or disapprove the program.

Students may, of course, approach the Honors committee directly for assistance in selecting a tutor and working out a program. And the committee or other faculty members may approach some students to encourage their consideration of an Honors program.

Students may enter an Honors program at any time in medical school, or in certain instances even before they enter medical school. They may leave the Honors program any time they wish; or their program or tutor may be changed if this seems advisable.

honors meetings and lectures

Major emphasis in this proposal is placed on individualized programs of study. Certain activities might be carried on advantageously as a group. Periodic meetings of Honors students and their tutors, to present research data or plans for research might be fruitful. The evening meetings which have been conducted by Dr. Alvar Werder to encourage grantees of the research committee to present papers could be adapted to this purpose. Such meetings might involve the entire group of Honors students; sometimes seminars of smaller groups with related interests might be worthwhile. Planned courses of study in logic and scientific methodology could be arranged.

At the New York State University in Syracuse, guest lecturers are used to the advantage of Honors students. Anyone at the University may attend the lectures, but only Honors students receive a bibliography in advance of the lecture and meet afterwards to discuss with the speaker his material.

At our own medical school we have many endowed lectureships which often are poorly attended and sometimes not even presented. A committee of Honors students and tutors would make an excellent lectureship committee. Turn over to this group the lectureship funds, let it benefit not only from the lectures but also from association with the lecturers; let it stray into philosophy or basic cell physiology as it pleases. Perhaps even more than group activities involving other students, an Honors student would benefit by being included in the research seminars and other special events of the department in which he works. This might include invitations to the homes of faculty members when they are entertaining visiting lecturers, investigators, etc.

research committee awards

The research committee now makes grants to students for research. This practice and an Honors program can complement each other. The programs of some Honors students may require funds; the research committee is one source of funds to which application can

be made. Many students not interested, or not acceptable for the Honors program, may still win research grants and work with a faculty member outside the purview of the Honors committee.

SUGGESTIONS FOR INDIVIDUAL HONORS PROGRAMS

In order to illustrate the kinds of programs this committee proposes, these examples are presented. We cannot imagine that one student would be indulged to the point of incorporating all or even many of these examples into his program. But we can imagine that many gifted students might in time adopt one or several of the proposals for a try at distinction, stimulated and helped by an advisor, but not encumbered by 99 classmates.

pre-medical years

The liberal arts college at Kansas University has started an Honors program. Gifted students may enroll in special Honors sections; they may take as many as 22 credit hours per semester. This program, combined with another circumstance, can shorten the preparation of doctors by one year.

In the near future the liberal arts college will be teaching human anatomy, physiology and biochemistry. These courses will be taught by some of the same faculty members who now instruct first year medical students.

Some outstanding pre-medical students could in four years complete all the requirements for an A.B. degree, and have incorporated into these years all of the material now taught in the first year of medical school. Opportunity for intensive review of biochemistry, physiology, and anatomy before starting the second year would be available through excellent short courses in these subjects now offered in the summers.

first year

There are three examples of Honors programs which were actually put into effect during the current first year of medical school. One student with an outstanding pre-medical record was disappointed by medical school as represented by the anatomy courses. He was intensely interested in biophysics. This student was excused entirely from the anatomy course except for the examinations. He began a program of study in biophysics under faculty members in Kansas City. He studied anatomy on his own, attending some lectures as he pleased and returning in the evenings to inspect the dissections of his classmates. His score on anatomy examinations improved by 20 points; his knowledge and interest in biophysics and problems in cell growth grew enormously.

Another gifted student, well grounded in biochemistry and physiology, was excused entirely from the second semester of his first year in medical school and came instead to Kansas City to work and study under a biochemist in the Department of Medicine. This student did not take the examinations required of his classmates; the chairmen of the departments of Biochemistry and Physiology interviewed this student at the end of the year and found his knowledge in their fields to be entirely satisfactory.

A third gifted student asked at the end of the first semester for permission to take a job in the evenings doing routine urinalyses at a local hospital. He hoped that this clinical association would fire his rapidly waning interest in medical school. This student had majored in mathematics, had published a paper on statistical method and had hoped to combine mathematics and medicine in a ca-

reer. He had begun to despair of these plans. He wanted to enroll in a course in computer programming given in the graduate school. He was excused from psychiatry in order to do this. His interest in medicine is flourishing; he sees an important career for himself; he will work this summer in the Department of Pathology on research problems, utilizing the IBM equipment in that department. Dr. Sigmund Gundel, who teaches psychiatry during the first year, gave a reading list to this student early in the semester. At the end of the year Dr. Gundel was favorably impressed with the knowledge and appreciation of psychiatry shown by this student.

These testimonials are presented in some detail to illustrate certain principles which may pertain to Honors programs in other years of the medical school:

1) Course content may be regarded as indispensable to a medical student, but the course itself probably is not.

2) Carefully selected students, if left at times to their own devices, will often study harder and more productively than if forced to follow a prescribed course of study at all times. Certainly there are students who use free time in what appears to be a frivolous fashion. Mature and responsible behavior in students can perhaps best be achieved by treating them in all situations as mature and responsible people. Giving some students the opportunity to exercise their own judgment in the expenditures of time and pursuit of special interests is in keeping with this attitude.

3) Programs of independent study involving a few students may have a beneficial effect on all students. Again in the present first year class only 3 or 4 students were involved in independent study. The entire class was intrigued by the challenge of similar programs. Twenty members of this class are engaged in research projects under the sponsorship of the research committee. This is a class with many good students. But in the past many good students have been content only to clear the academic hurdles. We cannot help but believe that the programs for independent study had a beneficial effect on this class, stimulating many students to think beyond assignments.

Of particular interest is the apparent lack of resentment in the class over special privileges given to a few. Students seem not to resent the recognition of outstanding ability and achievement; they may even be stimulated and challenged by meaningful recognition of superiority.

summer between 1st and 2nd years

This time will continue to be used, as it is now, for research and special projects.

second year

The Honors committee has no concrete proposals to offer other than the kind of programs already presented for first year students. The curriculum committee of the second year has started an Honors program which allows selected students to be excused from twenty per cent of scheduled assignments in order to work on research. We do not see how students can do this unless definite plans are worked out for each student, indicating which twenty per cent can be omitted. We believe that these activities should be assumed by the Honors committee for the entire medical school.

summer between 2nd and 3rd year

1) Research projects can be arranged.

2) Exceptional students might take any clerkship of the third year during the

summer, as is now permitted to any student by the pediatric service.

third year

Honors students might be allowed to substitute their own programs of study for parts of the required curriculum. For example, Dr. Herbert Miller has expressed willingness for selected students to be excused from half or even all of the pediatric clerkship if they substitute a worthy program of their own. Time spent at affiliated hospitals on the surgical and medical clerkships might be replaced by Honors work for some students.

summer between 3rd and 4th years

By manipulating schedules during the third year, Honors students might have as much as six continuous months including the summer between the third and fourth year for special studies.

fourth year

1) The state hospital assignment would be elective for some students. Some liberality in the requirement for a preceptorship might be allowed for Honors students.

2) The greatest opportunity for an Honors program to shorten the duration of medical education lies with the elimination of the fourth year. Each year there are one or two students, mature and well informed, who at the end of their junior year could discharge the duties of an intern quite capably, and presumably by so doing could derive the same benefits as other interns.

If some students took the pediatrics clerkship in the summer between the second and third years, they could then take medicine, surgery and obstetrics during the third year and could begin interning immediately thereafter. These students would be starting a residency at a time when their classmates were graduating from medical school. No good purpose would be served by this short cut, unless the years of postgraduate training for such a student were carefully planned and the student were firmly dedicated to them.

If one accepts the attitude that no curriculum can be optimum for each of 100 students, then other proposals better suited to the special talents and interests of special students will occur to other persons. By these measures we hope to destroy the high value that has been put in medical school on conformity and anonymity.

A PROGRAM FOR SUPERIOR STUDENTS *in chemistry* AT NORTHWESTERN UNIVERSITY

By F. G. BORDWELL AND R. K. SUMMERBELL
Department of Chemistry
Northwestern University

In the Chemistry Department at Northwestern University an attempt is made beginning in the freshman year to give superior students an opportunity to become acquainted with chemistry from the research point of view. After one quarter of freshman chemistry, students with better grades are placed in a special section so as to have the opportunity to delve more deeply into the subject. In the last part of the third quarter the students work on a simulated research project. An account of such a project has been given by R. K. Summerbell, G. Lestina, L. C. King and H. H. Neumann in the *Journal of Chemical Education, 32,* 475 (1955). The following excerpt is quoted from this article.

"By substituting anion analysis for the usual descriptive nonmetal chemistry, and omitting desirable but unessential duplication of unknowns, we are able to use several weeks at the end of the school year for more fruitful and exciting activities on the part of the student. Each student actually undertakes a simulated research problem. He is given a copious sample of a solution of some ion that was not covered in the regular scheme, and is asked to identify the ion, adopt or devise a scheme of analysis for an unknown containing the usual scheme ions plus this one extra ion, and to analyze a couple of rather simple general unknowns which may or may not contain his personal ion.

The mechanics of administration are quite simple. As rapidly as the students complete the traditional assignment, they are turned loose with 25 ml. of a solution of an ion and directions.

The students went to work with enthusiasm and the instructor experienced one of the most thrilling episodes in his teaching career. Laboratory note taking was no longer a chore that an unreasonable teacher insisted upon, but a perfectly logical and necessary aid in arriving at an objective. Accurate laboratory observation was of vital interest to the individual student. Differences in reaction for different valence states became something very real. The privilege of extra time in the laboratory was demanded. Groups of students argued chemistry in the halls, in the laboratory, and in the lecture rooms before and after class. The librarian complained that the students disturbed others by their arguments in the library. The students dug up other (and, of course, much better) reference books. Several of the students who had acquired a reading knowledge of German in high school hunted up classical German treatises and found them extremely helpful. A few even consulted original journal articles and many were impressed with the real necessity of acquiring a reading knowledge of German at the earliest opportunity.

All of the students succeeded in identifying their ions, concocting or adapting an analytical scheme, and using the latter to analyze the general unknowns. Incidentally, the results were considerably better on these general unknowns than on those that just preceded the research project. These improved results were partly due to increased experience, but the writers like to think that they were in part due to better observation and better understanding of the nature of the chemical principles and reactions involved.

The final reports took various forms and were of assorted excellence, but they

were uniformly better than would be expected from experience in reading examinations and required written work from the same and similar students. The pride in personal accomplishment adequately stood out."

In the third quarter of the sophomore organic course the better students may spend their laboratory time in a search for a new compound. Starting with compounds prepared in previous work or with commercial samples, the student considers possible reactions that these compounds will undergo. With the help of the instructor he devises a possible synthetic sequence which will lead to a new compound. The chemical literature is then consulted to ascertain whether or not the compound is indeed new and also obtain further ideas. About one-half the group is successful in preparing a new compound. For such compounds infrared spectra are taken and a microanalysis is run to determine the quantity of carbon and hydrogen present. The student thus sees methods of structural identification put into action. During the quarter's work the student becomes acquainted with the chemical literature, learns to adapt an experimental procedure to a new situation and is introduced to the difficulties and rewards of independent laboratory work.

During the spring quarter of the junior year, all chemistry majors who have a grade average of about B or better are invited to discuss the Honors program with the Honors advisor, and, if interested, to indicate their desire to do the extra work entailed. Each selected student is assigned to a faculty member whose research is related to his major interest. Professor and student discuss possible problems and usually the student undertakes to work on one of those suggested. Occasionally the student fails to find an interesting problem and returns to the advisor for assignment to a different professor.

At this point the student starts reading background material suggested by the professor. On returning to school in the fall of the senior year, the student starts experimental work. Often he works in the professor's laboratory, but in any event much supervision is furnished. Reports are required. About half of such projects eventually are published, sometimes as notes but often as parts of larger articles in such journals as those of the American Chemical Society.

A seminar is conducted by the "Undergraduate Affairs Committee." During the fall each student presents his intended problem; during the spring he reports on his actual results. Many also participate in a special American Chemical Society meeting for students.

Most students who start Honors work complete the program and receive an Honors degree in chemistry. Of course, they are also eligible for "distinction" and "highest distinction" awards. Sometimes a student who had borderline grades to begin with fails to improve and on rare occasions, a student does not win the approval of his research director. Such students simply do not receive the Honors degree though they receive the regular one. Students who register for Chemistry C98 may receive a maximum of sixteen quarter hours of credit although twelve is average. Usually the student registers for four quarter hours each quarter and spends from twelve to fifteen hours a week in working on the project. Each Honors student is given the privilege of a final oral examination.

Since only occasionally does a professor have more than one Honors student at a time, the result of the program is a very close personal relationship between the better student and at least one member of the faculty during the senior year.

Most faculty members consider it as a highly satisfactory and rewarding teaching experience.

Most Honors students in chemistry go to other universities for graduate work; some enter medical school, high school teaching, or industry. While we believe the experience is of value for all of these, we think it is particularly important for the prospective graduate student to get a real taste of research before beginning course work on the graduate level.

THE HONORS PROGRAM AT SWARTHMORE COLLEGE

*An Informal Memorandum Submitted to the College's Faculty Curriculum Committee**

By DEAN W. C. H. PRENTICE
Swarthmore College

The Swarthmore Honors program is unique. It has a number of features that rarely appear in other colleges and practically never appear in combination.

1. The student does all of his work under the new method of study, leaving behind the practices of course work not only in his major but in everything that he is taking.

2. He spends two full years in the program instead of one or two semesters at the end.

3. He is expected to stand examinations in each of the areas in which he has worked, and the examinations themselves have unusual conditions.

   a. The examinations are given by professors from other institutions.

   b. These terminal examinations are the only ones that have any bearing on the student's standing.

   c. All of the examinations are taken at the same time, at the end of the entire period of four semesters.

   d. The examinations are both written and oral.

   e. The final assessment of the student is made by a conference of examiners rathers than by the averaging of grades.

Do these characteristics merely constitute an alternate route to the B.A., or do they have some other educational significance? The unique characteristics of the Swarthmore program are, of course, combined with other features that are much less extraordinary and also much less uniform from department to department and from topic to topic. In an effort to decide whether our unique features should be retained and whether our less unique and more variable practices should be subject to any kind of standardization or modification, it is important to examine the underlying philosophy of the total system. Perhaps that can be done by dividing the entire problem into three parts: educational aims, techniques of teaching, and programs of study.

*This memorandum was not written for publication. However, we believe it to be such an excellent description of the aims and character of the Swarthmore program that we have obtained Dean Prentice's permission to reproduce it in THE SUPERIOR STUDENT.

EDUCATIONAL AIMS

One of the educational aims of the system is obviously better teaching, i.e., an opportunity for the student to acquire more information, deeper insights, etc. It is usually supposed that these goals are more easily achieved as a result of the small numbers of students in each seminar, the fact that each topic takes a full half of each student's time, and the selection of superior students for the program.

A second aim is the achievement of a concentrated or intensive educational experience. A number of the things that we do are said to contribute to that end. Students study only two topics at any one time. In their last four semesters, students study only three (or occasionally four) different fields. Half of all the work is concentrated in one's major field. And finally, at least in the view of some members of the faculty, the system provides for a unified and coherent total program in the last two years.

A third aim is that of freedom. This includes freedom from class attendance and from all the paraphenalia of daily assignments and recitation. It also includes freedom from the instructor, allowing the student to direct his own study within broad limits. It includes freedom from the tempo of other students, permitting the individual to go fast or go slowly as his own interest and ability direct. It also includes freedom from short term goals, permitting the student to concentrate on a mature understanding of a particular field, achieved over a period of two years rather than on the accumulation of facts or special skills on a more temporary basis.

TECHNIQUES

The standard technique of the Swarthmore Honors seminar reflects some or all of these aims. We see them in the size of the group, typically eight or less; in the frequency of the meetings, generally no more than once a week; in the length of the meetings, usually four or five hours.

The other technical aspects of the seminars show more variability, though we are perhaps safe in assuming that each individual develops techniques that he supposes will contribute to the above aims. At various times and in various departments, a seminar may consist of a lecture (for part or for all of a given session). It may consist of carefully directed and controlled discussion. It may consist of relatively free discussion, in which the instructor does his best to stay out of the main stream, merely serving as a moderator who sees to it that some order is kept and that students stay on the topic. It may consist of prepared papers, and those papers may vary in many ways. In some seminars they are assigned several weeks in advance; in others no more than a week ahead of time. In some cases copies are made for every member of the seminar; in others they are merely read. In some seminars everyone has a chance to read the paper in advance; in others the paper or papers may be read aloud in the seminar meeting itself. In some seminars one paper may occupy an entire meeting; in others the paper or papers may be read and briefly discussed. In some seminars the discussion is intentionally directed toward the quality of the paper; in others it is uniformly directed toward the topic itself, the paper merely being used as a springboard for discussion of the assigned problem.

PROGRAMS

The choice and arrangement of seminars was originally sharply limited both by the intent of the faculty and by the availability of offerings. There has been a steady and gradual increase in flexibility continuing over many years. The change has been sharper in some divisions than in others. Currently we find that the con-

sensus of the Division of Natural Sciences supports a highly organized and specialized kind of program. Its notion is that a student who wishes to spread his work among departments that are not closely related should take his degree in course. This view is stated in such a way as almost to preclude cross-divisional programs of any kind, but it goes further and even limits the programs that are available within the division, certain seminars in psychology being unacceptable for chemistry majors, etc. On the other hand, the divisions of the Humanities and the Social Sciences have, for all practical purposes, become a single division in the administration of Honors programs. Almost no voice is raised to question a program that is partly literature and partly political science, for example. Programs that include economics, mathematics, and French would undoubtedly pass without a question so long as the Mathematics Department gave its approval. The problem is not only a divisional one. There are some members of several different departments who feel that the major department should exercise more control over the choice of seminars within the major and over the selection of the minor seminars, in order to insure some kind of unified intellectual experience for the Honors student during the last two years. In general, very little of such control is exercised, and students select their seminars without much guidance and on such bases as the popularity of the professor, the student membership in the particular seminar, and even the day of the week on which the seminar meets.

The whole matter of the importance of the program itself in fulfilling the aims of the Honors plan should be evaluated. Other aspects include the importance to be attached to the number of seminars: What about the by now relatively common seven-seminar programs? What about our occasional six-seminar programs? What about the proposal that has been made informally by some of our chemists that a chemistry Honors program be limited to the senior year? Are these questions of administration and technical application only, or are they questions that raise matters of fundamental policy and philosophy?

SUMMARY

There are a number of independent aims that are frequently referred to as being fulfilled by the Honors program. The faculty should consider the relative importance of these aims, the degree to which some or all of them must be maintained and the degree to which they are, in fact, being protected by our present practices. In the second place, our techniques of Honors teaching need careful consideration in the light of whatever decisions are made about aims. The faculty should decide whether it wishes to exercise any supervision over the manner in which reading for Honors is directed by individual instructors. In the third place the number and arrangement of seminars leading to the Honors degree need careful reevaluation in the light of prior decisions about aims and techniques. . . .

THE HUMANITIES AT EMORY UNIVERSITY

an opportunity for the superior student

By J. M. CONANT
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At Emory University an extensive program in the humanities, principally for the better students in the College, has been developing for the past eight years. In 1950 the departments constituting the Division of the Humanities devised a divisional major, an important part of which was to be an integrative course of the kind calculated to make the students aware of the historical continuity of the Western tradition and the philosophical continuity of the diverse cultural forms in which the tradition has found expression. In general many of the best students in the College, both divisional majors and concentrants in other fields, have found their way into this course, and though the sections in which it is taught are conscientiously kept small the upper division humanities course has steadily grown. Largely as a consequence of the excitement generated in this course in its early days a second course in the humanities was soon introduced into the lower division curriculum to make available at an earlier stage the sort of intellectual experience and excitement that characterized the upper division course.

The new lower division course was explicitly intended for the superior student, and the staff devised means of determining the sophomores who showed promise of profiting themselves and one another by participation in such an enterprise. Though the course is an elective and is usually taken in addition to the normal program, it carries great prestige value, partly no doubt because participation is only on invitation. Indeed, many students have considered it an indispensable part of their college careers.

The humanities staff consists of men drawn from the traditional departments: classics, romance languages, history, Bible and religion, and others. Much of the program's success is attributable to the devotion of the members of the staff both to learning and to the life of the mind.

Both courses quite consciously have been focussed on books as being the bearers of the humanities tradition most available to discourse. But the relevance of other modes of expression is consistently recognized. The basic preoccupation, however, has been with ideas, and the attempt is made to induce in the student the intellectual habits of reading serious documents with critical attention (and, be it said, some sensibility) and in synthesizing what he comes to know. At the same time, of course, the readings are intended to provide something worthy of synthesizing. Accordingly, the reading lists in these courses are composed of entire works of some proportion and substance, from which may be named, *exempli gratia,* Homer's *Iliad* and *Odyssey,* Dante's *La Divina Commedia,* Dostoevsky's *Crime and Punishment,* Plato's *Republic,* Lucretius' *De rerum natura,* Spinoza's *Ethics.* Each year's list contains thirty documents of this nature (one per week), so that in the two courses sixty such books will be read.

Last year a new freshman course was taught experimentally. It was of the same form as the older sophomore course but of a somewhat different mode. Here the objective was to acquaint young students through modern works of fiction entirely, at first of modest proportions (e.g. Gogol, *The Overcoat* or James, *The Turn of the Screw*) and later of truly considerable size and complexity (e.g. Dostoevsky, *The Brothers Karamazov*), with the experience

of their contemporaries and near-contemporaries and the manner of its expression. It succeeded on an experimental basis, and this year the course is being offered as a regular freshman elective. Admission is by invitation, as in the sophomore course.

In all the humanities courses the intent is to produce young people who have both the inclination and the ability to talk thoughtfully and responsibly about serious questions. Each humanities section, so far as possible, is kept to fewer than fifteen students, and all classes are conducted on the discussion basis. Examinations are individual and oral, with two or more instructors participating in each examination. There is, however, written work in the form of term essays, the essential nature of which is meant to correspond with the general character of the course and whose substance is normally drawn from its subject matter.

Since the humanities courses are all electives, registration figures are of interest. In 1950-51 there was one section of humanities in the entire College of Arts and Sciences; it consisted of ten students. This year there are three sections of freshmen humanities (40 students from a class of 527), four sections of sophomore humanities (49 students from a class of 482), and three sections of the upper division course (39 students from a total of 706 juniors and seniors).

Until this year the College of Arts and Sciences has had no official award of Honors and no Honors program as such. Some departments have had provision for departmental Honors work, and in a manner of speaking there have been unofficial Honors students. In more than one sense students in the Humanities courses are equally unofficial Honors students. In many instances they voluntarily have done far more than their fellows, and far more than they were required to do, solely out of love for learning. And often they have done markedly superior, even distinguished, work. This year the University will give official recognition to Honors work performed, and it is fully expected that students from the various humanities courses will win Honors, whether in humanities or in the departments of their specialization. In any event, the members of the staff feel a boundless gratitude for the opportunity of engaging in this exciting teaching and for the experience of the responsive enthusiasm of highly interested students.

a report on the tri-college cooperative program for gifted students

In the October, 1958 issue of THE SUPERIOR STUDENT we had occasion to make mention in our notes of a TRI-COLLEGE COOPERATIVE PROGRAM FOR GIFTED STUDENTS involving three small Minnesota institutions —ST. CLOUD STATE COLLEGE, ST. JOHN'S UNIVERSITY and the COLLEGE OF ST. BENEDICT. We believe that our readers will find highly interesting the following letter regarding the implementation of the program from Sister Johanna, O.S.B., Academic Dean of the College of Saint Benedict.

We are now nearing the close of the first year of this program and if we looked forward to it last year with enthusiasm, we look back on the past year and look forward to future years with even greater enthusiasm.

So far we have concluded the presentation of five of our six topics, having only the one on education still before us. This one, incidentally, is going to see presented a panel, which combines the presidents of the three cooperating institutions . . . .

We have used somewhat of an experimental approach this year and have had a variety of modes of presenting both the faculty and student papers. For the most part, however, the students have presented papers which they have either read or referred to . . . .

The faculty panels, however, have had a broad range of approach; in some instances, the scholarly paper was used as a point of departure for a free presentation. In other instances, its information was so exacting that it was read, at least in part, to the group assembled. We have had a variety of significant consultants who have sometimes met in small groups with participating students and faculties on each campus; sometimes they have met the assembled groups from the three campuses; and sometimes they have addressed our whole student bodies. These consultants have included such men as Dr. Eugene Rabinowitch, editor of the *Bulletin of Atomic Scientists;* David McCord Wright of the University of Toronto, Dr. Francis Wilson of the University of Illinois, Dr. Philip Jordan of the University of Minnesota, and Dr. Erik von Kuehnelt-Leddihn, author and correspondent. We are now looking forward to two consultants who will be on our campuses before the final education panel: Dr. George Schuster, president of Hunter College, and Dr. Harold Taylor, ex-president of Sarah Lawrence.

So far each panel has been augmented by the services of at least one and sometimes two consultants with the exception of the art panel. This time, we hope to bring in a post-panel consultant at a later date.

The Hill Foundation, which has subsidized this program for the past year, has now renewed its subsidy for the two forthcoming years to the amount of $76,500, bringing the total three year grant to somewhat over $100,000. This forthcoming summer each of the participating institutions will receive an allotment of $6,000 to be expended on faculty improvement.

We have found that there is enthusiastic interest on the part of our students and a great deal of serious research in the work they are doing. Each one besides having benefited from participating in the course is coming away from it with a library consisting of three to five books in each of the areas that has been covered. But beyond this, we find that of equal importance, if perhaps not even of greater importance, has been the improvement of the faculty, which was as you probably recall part of our original program. And, of course, we are recoginzing, not in theory but in actual experience, the fact that this faculty improvement is influential in the improvement of the intellectual atmosphere among our students.

Besides having the documentation of a paper from each faculty member who has participated in the program, we also have tape recordings of the faculty panels and the discussions following them and we have on file copies of the student papers, although these are not distributed generally among all the participants. Some of the discussions and addresses by consultants have also been taped for reference and for future use. . . .

notes and comments

The Eastern Invitational Conference of the Inter-university Committee on the Superior Student will be held at Ann Arbor, Michigan June 14-17. The conference is being co-sponsored by the University of Michigan and invitational priorities are being given to publicly supported colleges and universities. For purposes of viability, it is hoped to limit the number of those officially attending to not more than sixty-five.

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During March ICSS director, PROFESSOR J. W. COHEN, undertook another of his extended travel itineraries which took him first to the meeting of the Association for Higher Education in Chicago and then to the following institutions: Northwestern University, University of Chicago, Miami University, Ohio University (where he addressed a meeting of the Ohio AAUP), Ohio State University, New York University, Brooklyn College, City College of New York, University of Connecticut, Harpur College, Cornell University, and the University of Rochester.

Professor Cohen's April visits take him to the Conference on Composition and Communication in San Francisco, the University of California (Berkeley), Yale University, Brown University, Harvard University, Brandeis University, Boston University, Boston College, and the University of Massachusetts.

In May Professor Cohen's tentative itinerary calls for visits to the University of Wisconsin, University of Minnesota, University of Iowa, University of Illinois, University of Indiana, Purdue University, Michigan State University, Wayne State University, Kent State University, and the University of Notre Dame.

Other members of the ICSS have also taken to the road in behalf of the academically talented: PROFESSOR WALTER WEIR visited Reed College, the University of Oregon, San Francisco State College, Stanford University, and San Jose State College; PROFESSOR SAMUEL HAYS spoke before a faculty group at Bradley University; and PROFESSOR HOWARD H. QUINT conferred with faculty and administrative officials at the University of Arizona, Arizona State University, Arizona State College, and Fresno State College.

We have reprinted a thousand additional copies of the May, 1958, issue of THE SUPERIOR STUDENT, (Volume 1, Number 2), which has been out of print for several months. We shall be very pleased to send it to interested academic personnel and to libraries upon request.

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DEAN COURTNEY C. BROWN announced a thorough reorganization of the curriculum at COLUMBIA UNIVERSITY'S Graduate School of Business with the end of having students "inquire more deeply into the basic principles underlying modern business practices." The new curriculum, which goes into effect this fall, represents a recognition by the faculty for the need of a comprehensive educational program that will "keep pace with modern business practices and produce balanced and effective members of the business community." According to Dean Brown, the new program's core material will be grouped under four categories: 1) the environment in which business operates; 2) the internal administration of business; 3) the preparation and use of quantitative data in business; 4) the integration of business principles by their application to selected and actual complex cases. The program, said Dean Brown, will offer the graduate business student "an intellectual experience preparatory to potential managerial leadership."

A change in the curriculum also will permit "exceptionally well qualified" students to complete a semester's work during a summer term. Advanced credit based on academic experience and on proficiency tests will be given to students under this arrangement and thereby allow them to complete a normal two year degree requirement in twelve months.

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A committee consisting of the Dean and representatives of each participating department in the College of Arts and Sciences at OKLAHOMA STATE UNIVERSITY has obtained faculty approval for a new departmental Honors program which is to operate with administrative coordination. Involvement in the program, which has developed out of several months of planning, will be entirely voluntary by both students and faculty. An Honors Committee will be established and have as its duties: 1) To review and evaluate the Honors programs of the various departments; 2) To initiate and promote studies and ideas related to increasing the opportunities for the superior student; 3) To maintain contact with secondary school administrators for the purpose of recruiting Honors students; 4) To prepare publicity materials for distribution to secondary schools and other outlets; and 5) To report periodically to the faculty of the College of Arts and Sciences on the status and development of the Honors program of the various departments.

the superior student

J. W. Cohen, Director and Editor-in-Chief
H. H. Quint, Associate Director and Managing Editor

Executive Committee: S. P. Hays, Iowa; J. H. Robertson, Michigan; E. W. Strong, California; C. G. Taylor, Louisiana State; G. R. Waggoner, Kansas; W. D. Weir, Colorado; D. Wynn, New Mexico.